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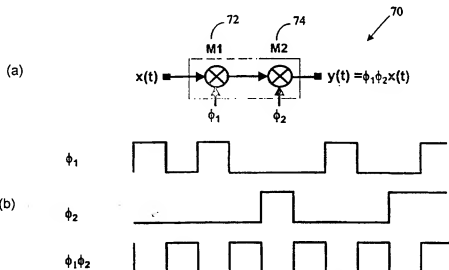
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(54) Title: IMPROVED METHOD AND APPARATUS FOR DOWN-CONVERSION OF RADIO FREQUENCY (RF) SIGNALS



(57) Abstract: This patent describes a method of removing the LO-leakage and 1/f noise problems associated with direct conversion RF receivers and other demodulators. In order to solve this problem a virtual LO™ signal is generated within the RF signal path which is tuned to the incoming RF signal. The virtual local oscillator (VLO) signal is constructed using signals that do not contain a significant amount of power (or no power at all) at the LO frequency. Any errors in generating the virtual LO signal are minimized using a closed loop correction scheme.